



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

AMERICAN JOURNAL OF BOTANY

OFFICIAL PUBLICATION OF THE
BOTANICAL SOCIETY OF AMERICA

EDITORIAL COMMITTEE

C. E. ALLEN, Editor-in-Chief
University of Wisconsin

C. STUART GAGER, Business Manager
Brooklyn Botanic Garden

A. S. HITCHCOCK,
Bureau of Plant Industry

IRVING W. BAILEY,
Bussey Institution

EDGAR W. OLIVE,
Brooklyn Botanic Garden

R. A. HARPER,
Columbia University

JACOB R. SCHRAMM,
Cornell University

F. D. KERN, *State College of Pennsylvania*
(Representing American Phytopathological Society)

VOLUME V—1918

WITH THIRTY-SIX PLATES AND THIRTY-SEVEN TEXT FIGURES

PUBLISHED

IN COOPERATION WITH THE BOTANICAL SOCIETY OF AMERICA

BY THE

BROOKLYN BOTANIC GARDEN

At 41 NORTH QUEEN STREET, LANCASTER, PA.

Reprinted with the permission of the original publisher

JOHNSON REPRINT CORPORATION

NEW YORK AND LONDON

TABLE OF CONTENTS, VOLUME V, 1918

NO. 1, JANUARY

	PAGE
The effect of illuminating gas and its constituents on certain bacteria and fungi.....C. A. LUDWIG	1
A bacteriological method useful for the study of other micro-organisms (with two text figures)....FREDA M. BACHMANN	32
The development of some exogenous species of Agarics (with plates I-VII).....GERTRUDE E. DOUGLAS	36

NO. 2, FEBRUARY

The structure of the uredinium in <i>Pucciniastrum Agrimoniae</i> (with plate VIII).....C. A. LUDWIG AND C. C. REES	55
Spore formation in <i>Philocopra coeruleotecta</i> (with plates IX-XI) HALLY JOLIVETTE SAX	61
Selected cycles in <i>Gymnoconia peckiana</i> ...GEORGE F. ATKINSON	79
<i>Aspergillus fumigatus</i> , <i>A. nidulans</i> , <i>A. terreus</i> n. sp. and their allies (with three text figures) CHARLES THOM AND MARGARET B. CHURCH	84

NO. 3, MARCH

A demonstration of photosynthesis (with two text figures) W. J. V. OSTERHOUT	105
The flavones of <i>Rhus</i>CHAS. E. SANDO AND H. H. BARTLETT	112
Conservatism and variability in the seedling of Dicotyledons (with four text figures).....EDMUND W. SINNOTT	120
Noteworthy <i>Lejeuneae</i> from Florida (with five text figures) ALEXANDER W. EVANS	132

NO. 4, APRIL

Copper and zinc as antagonistic agents to the "alkali" salts in soils (with two text figures) C. B. LIPMAN AND W. F. GERICKE	151
The effect of tobacco smoke and of methyl iodide vapor on the growth of certain micro-organisms.....C. A. LUDWIG	171

The vertical distribution of Volvox in the plankton of Lake Monona.....	GILBERT MORGAN SMITH	178
A comparison of salt requirements for young and for mature buckwheat plants in water cultures and sand cultures	JOHN W. SHIVE AND WILLIAM H. MARTIN	186
Cell measurement as an aid in the analysis of quantitative variation (with two text figures)	WILBER BROTHERTON, JR., AND H. H. BARTLETT	192
Respiration and catalase activity in sweet corn (with one text figure).....	CHARLES O. APPLEMAN	207
Some new species of Inocybe.....	GEORGE F. ATKINSON	210

NO. 5, MAY

The geographic affinities of the vascular floras of New England, the Maritime Provinces and Newfoundland (with plates XII-XIV).....	M. L. FERNALD	219
The contrast in the floras of eastern and western Newfoundland (with plates XV-XVII).....	M. L. FERNALD	237
Generic types with reference to the grasses of the United States	A. S. HITCHCOCK	248
Axillary cleistogenes in some American grasses (with five text figures).....	AGNES CHASE	254
Cyrtandreae Hawaiienses, Sect. Crotonocalyces Hillebr. (with plates XVIII-XXIII).....	JOSEPH F. ROCK	259

NO. 6, JUNE

Breeding for disease resistance in plants.....	W. A. ORTON	279
Behavior of plants in unventilated chambers	F. C. NEWCOMBE AND ETTA A. BOWERMAN	284
Segregation of susceptibility to parasitism in maize	DONALD F. JONES	295
The value of certain nutritive elements in the development of the oat plant (with five text figures).....	JAMES GEERE DICKSON	301
Uredinales of Guatemala based on collections by E. W. D. Holway.		
I. Introduction, Coleosporiaceae and Uredinaceae	J. C. ARTHUR	325

NO. 7, JULY

A new three-salt nutrient solution for plant cultures	B. E. LIVINGSTON AND W. E. TOTTINGHAM	337
---	---------------------------------------	-----

The histology of the phloem in certain woody Angiosperms (with three text figures and plates XXIV-XXIX)	L. H. MACDANIELS	347
Cell division by furrowing in <i>Magnolia</i> (with plates XXX-XXXII)	CLIFFORD H. FARR	379

No. 8, OCTOBER

The cytology of <i>Eocronartium muscicola</i> (with plates XXXIII-XXXV)	HARRY M. FITZPATRICK	397
Uredinales of Guatemala based on collections of E. W. D. Holway.		
II. Aecidiaceae, exclusive of <i>Puccinia</i> and form-genera	J. C. ARTHUR	420

No. 9, NOVEMBER

Calcium oxalate in the dasheen	O. F. BLACK	447
The influence of certain added solids upon the composition and efficiency of Knop's nutrient solution	E. H. TOOLE AND W. E. TOTTINGHAM	452
Uredinales of Guatemala based on collections of E. W. D. Holway.		
III. <i>Puccinia</i> , exclusive of species on <i>Carduaceae</i>	J. C. ARTHUR	462
On the osmotic concentration of the tissue fluids of Phanerogamic epiphytes	J. ARTHUR HARRIS	490

No. 10, DECEMBER

Endurance of extreme conditions and its relation to the theory of adaptation (with one text figure)	W. J. V. OSTERHOUT	507
A simple method of demonstrating the production of aldehyde by chlorophyll and by aniline dyes in the presence of sunlight	W. J. V. OSTERHOUT	511
<i>Oreomyrrhis borneensis</i> Merr. sp. nov., an interesting addition to our knowledge of the Malayan flora (with plate XXXVI)	E. D. MERRILL	514
Root absorption from solutions at minimum concentrations (with two text figures)	R. B. HARVEY AND R. H. TRUE	516
Uredinales of Guatemala based on collections of E. W. D. Holway.		
IV. <i>Puccinia</i> on <i>Carduaceae</i> , form-genera and index	J. C. ARTHUR	522
Index to Volume V		551

(Dates of publication: No. 1, Feb. 26; No. 2, Mar. 9; No. 3, Apr. 26; No. 4, May 18; No. 5, June 25; No. 6, July 6; No. 7, Aug. 3; No. 8, Nov. 11; No. 9, Nov. 30; No. 10, Dec. 31.)

ERRATA, VOLUME V

Page 58, **line** at top of page should be transferred to top of p. 59.

Page 122, for *Fig. 2*, read **Fig. 3**.

Page 123, for *Fig. 3*, read **Fig. 2**.

Page 162, next to last line, last five words, should read "**will, we hope, be soon**"

Page 177, under Ludwig citation, for pp. 55-60 read **1-31**.

Page 216, line 20, delete *no.*, so as to read **160, 1905**.

Page 329, line 1, insert **1** before *Coleosporium*.

Page 395, for *Plates XXX-XXXI*, read **Plates XXX-XXXII**.

Page 418, plates *XXX, XXXI, XXXII*, change to **XXXIII, XXXIV, XXXV**.